



# NOCOE SOUTHWEST PEER EXCHANGE TOPIC 3- EMERGING TECHNOLOGIES

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Texas Department of  
Transportation



# Session 3: Emerging Technologies in TSMO and TIMS

- What technologies are you using or do you think you can use for incident and emergency response?
  - San Antonio-
    - Police want to use drones for traffic investigations. They can perform investigations in half the time as they are doing now with Total Stations.
  - Houston-
    - TxDOT is currently investigating the use of video analytics for use in more aggressively identifying incidents in an automated fashion
    - In addition, the new mobile apps will allow for citizen reporting of incidents.
    - Waze is informally used to detect incidents by some, but not all, floor operators
    - The medical examiner has begun to prioritize response to fatal incidents, with very good results (response times cut by upwards of 50%)
  - Austin
    - Mobile application for SSP

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- How integrated are you with emergency operations?
  - San Antonio-
    - SAPD dispatch is on our operations floor.
    - Receive a limited CAD feed from SAPD.
    - Operators have radios for Bexar County sheriff department, but need to improve integration with Bexar County
  - Houston-
    - Partner agencies are on the floor at TranStar working in coordination to monitor conditions and appropriately respond.
    - Agency managers coordinate with incident management strategies and the TIM committee is active and engaged and meets regularly to discuss overall performance and conduct after action reviews

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- What type of support can your DOT operations provide to first responders?
  - Traffic control
  - Debris cleanup
  - Support on Hazmat (fuel spills)
  - Wrong-way driving tracking
  - Traveler information
  - Distributed video to local partners & media

# Houston Video Analytics Pilot

- ✓ **TrafficVision (Omnibond Systems, LLC) came highly recommended by our primary camera vendor.**
- ✓ **One of few video analytics vendors focused only on transportation.**
- ✓ **Headquartered in South Carolina, with offices in VA.**
- ✓ **Deployments in US (e.g. Colorado, Kansas, Missouri, South Carolina, Ohio, and Delaware DOTs), Canada....currently testing in China and the UK.**
- ✓ **TrafficVision claimed capability in detecting stopped vehicles, pedestrians, debris, wrong-way vehicles, and congestion/slow speeds.**
- ✓ **Will be exhibiting at 2016 ITS Texas Annual Meeting.**

# Houston Video Analytics Pilot



**Overview Tab**  
Displays all cameras in rows. Click any thumbnail image to select its camera.

**Side Pane**  
Displays cameras with an active alert

TrafficVision TMC

130.127.148.83/web/tmcapp.html

Overview Video Settings Manage Units / Cameras Map Administration Data ONLINE DOCUMENTATION

Size: Small Show All Cameras Showing 24 / 24 cameras.

Camera 1 Camera 2 Camera 3 Camera 4 Camera 5 Camera 6

Camera 7 Camera 8 Camera 9 Camera 10 Camera 11 Camera 12

Camera 13 Camera 14 Camera 15 Camera 16 Camera 17 Camera 18

Camera 19 Camera 20 Camera 21 Camera 22 Camera 23 Camera 24

Alerts

Camera 9 Far: 12 Near: 62

Camera 24 Far: 57 Near: 65

Camera 13 Far: 54 Near: 66

TrafficVision TMC

Please visit TrafficVision for more details. ©Copyright 2015 OneRoad Systems LLC

Version: 2.0.0-151007

**Are more incidents detected?**

***462 additional stopped vehicle events***

**Are incidents detected any faster?**

***4½ min. (avg.) faster on 35 incidents***

**What is the accuracy of detected incidents?**

***24% false alerts***

**Do operators find this tool beneficial?**

***Somewhat useful***

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- What type of activities does your DOT do in the event of an incident or emergency?
  - Monitor the incident and disseminate information,
  - Coordinate traffic control with partner agencies (for example, adjust signal timing ),
  - Provide information to the media
  - We activate local district and statewide EOCs (TxDOT)
    - Go into 24 hour work mode
  - Implement appropriate traffic control measures
    - Closures due to ice, rain, wildfire
    - Implement contra-flow or open Evacu-lane during hurricane evacuations
    - Expanded service patrol in rural areas during hurricane evacuations
    - Treat roads during ice storms